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EX PARTE OR LATE FILED

December 18, 1998

EX PARTE PRESENTATION

Ms. Magalie Roman Salas, Secretary
Federal Communications Commission
Portals II
445 Twelfth Street, SW
Washington, DC 20554

Re: *In the Matter of Applications for Transfer of Control to SBC Communications Inc. of Licenses and Authorizations Held by Ameritech Corporation, CC Docket No. 98-141*

Dear Ms. Salas:

Enclosed please find a photocopy of a July 1997 Yankee Group study entitled "Integrated Carriers – The Users Speak". The study evaluates the attractiveness of the integrated carrier to the *Fortune 1000* corporations. Specifically, the study considers (1) is it worthwhile to be an integrated carrier and (2) what does the high-end business segment expect from an integrated carrier.

The Yankee Group granted SBC Communications Inc. permission to provide copies of this study to the Commission at no charge. The contact person at The Yankee Group is Mr. Mark Buchta, Regional Vice President, The Yankee Group, 31 St. James Avenue, Boston, Massachusetts, 02116, (617) 956-5006, mbuchta@yankeegroup.com.

In accordance with the Commission's rules governing ex parte presentations, an original and two copies of this notification are provided herewith. Please call me directly should you have any questions.

Respectfully submitted,

Todd F. Silbergeld

Copies: Prof. Krattenmaker
Dr. Rogerson
Mr. Stockdale
Ms. Carey
Ms. Karmarkar
Ms. Simon
Ms. Megna
Ms. Fabian
Mr. Garrett

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THE YANKEE GROUP

Integrated Carriers— The Users Speak

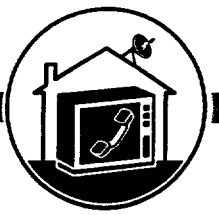
Telecommunications Planning Service

July 1997

THE YANKEE GROUP

Integrated Carriers— The Users Speak

Telecommunications Planning Service



July 1997

The Yankee Group, 31 St. James Avenue, Boston, MA 02116
(617) 956-5000

Table of Contents
Integrated Carriers—The Users Speak

Table of Exhibits
Integrated Carriers—The Users Speak

Executive Summary
Integrated Carriers—The Users Speak

The first-tier IXCs and most of the RBOCs began their evolution to integrated carriers almost four years ago. By acquiring or building complementary assets, they started offering as complete a service portfolio as regulations would allow. By the time the Telecommunications Act of 1996 was passed, most were full service providers and many were a short step away from being integrated carriers—not mere full service providers but true solutions providers.

Today, many of the carriers are on the threshold of mass customization capabilities, leveraging their full service offerings into customized products and services targeting the unique needs of a specific market segment.

This Report evaluates the attractiveness of the integrated carrier to the *Fortune 1000* corporations. Its analysis is based on the Yankee Communications 100 (YGC 100) survey. The YGC 100 tracks 300 of the *Fortune 1000* companies and collects data on decision criteria, buying behavior, adoption, and use of carrier services and products in those corporations.

The survey results are used to address two main themes:

- *Is it worthwhile being an integrated carrier?* Will the customers buy? What is the existing demand for services and products that make the "integrated carrier" a viable business proposition for the users?

- *What does the high-end business segment expect from an integrated carrier?* What is the most compelling value proposition an integrated carrier can offer to the high-end business segment? Is it built around price? Performance? One-stop shopping? Value-added services?

Before outlining the users' responses, it is important to outline what we believe is an integrated carrier and discuss the forces that have influenced the integrated carrier to offer end-to-end solutions as opposed to discrete service offerings.

What Is an Integrated Carrier?

The integrated carrier is an evolutionary concept. Over the last three years, most carriers have begun their transformation into integrated carriers by seeking to offer end-to-end connectivity, as well as a bundled offering of communication services. This is an effort to move up the value chain and become more than just a commodity service provider.

Their primary constraint against becoming integrated carriers (prior to the Telecom Act) had been the regulatory environment that prevented them from offering a comprehensive service portfolio and unrestricted access to geographic markets.

As these restrictions disappear, any carrier that can offer a full suite of services can become integrated. Over time, we expect to see a trend whereby as an industry we move away from buying and selling of discrete services to a environment in which users select suppliers on the basis of delivering solutions.

For example, if a user chooses a carrier for its call center solution, it would typically include transport (long distance, local, international), network-based services (800, network-based automatic call distributors [ACDs], intelligent routing), alternate access (IP connectivity and Internet interfaces), and systems integration support, to implement this entire solution.

Essentially, this means that users will evaluate carriers in terms of how they combine and use their service offerings to provide business solutions. There is evidence of this trend already. The global networking market is a good example, in which carriers compete on the ability to deliver managed network solutions rather than individual services.

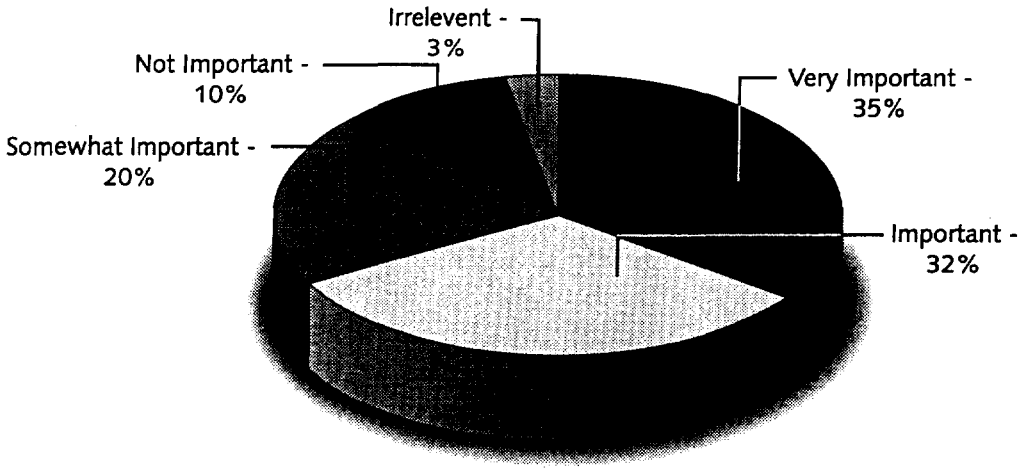
We also believe that over a period of time, the industry in general will stop thinking in terms of RBOCs versus competitive local exchange carriers (CLECs), and start thinking in terms of full service providers that have best-practice capabilities in different areas such as call centers or video-based solutions. The selection criteria for these carriers will be based on their expertise in provisioning the best solution for a business problem, rather than separate services that the users have to bundle and manage themselves.

Do the Users See Value in Integrated Carriers? Will They Buy?

As Exhibit ES-1 indicates, users have certainly bought the concept: 67% of the respondents believe it is important or very important that their primary or secondary carriers be integrated carrier; only 13% of the respondents believe that it is not important or irrelevant.

To evaluate why is it important to the respondents that their primary or secondary carrier be an integrated carrier, we asked them to elaborate in their own words. As a result, 62% of the respondents indicated one-stop shopping as their most important reason, 55% indicated lower costs would be the primary reason, 37% percent choose manageability, 25% indicated simplicity, and 24% indicated higher reliability as the reason their primary or secondary service provider should become an integrated carrier.

Exhibit ES-1
Do You Believe That Your Primary or Secondary Carriers Should Be Integrated Carriers?
Source: the Yankee Group, 1997



If their primary or secondary carrier does become an integrated carrier, would the respondents seriously consider moving to an integrated carrier for most of their business? As Exhibit ES-2 indicates, a large majority—68.1%—would consider moving to a single carrier for their business.

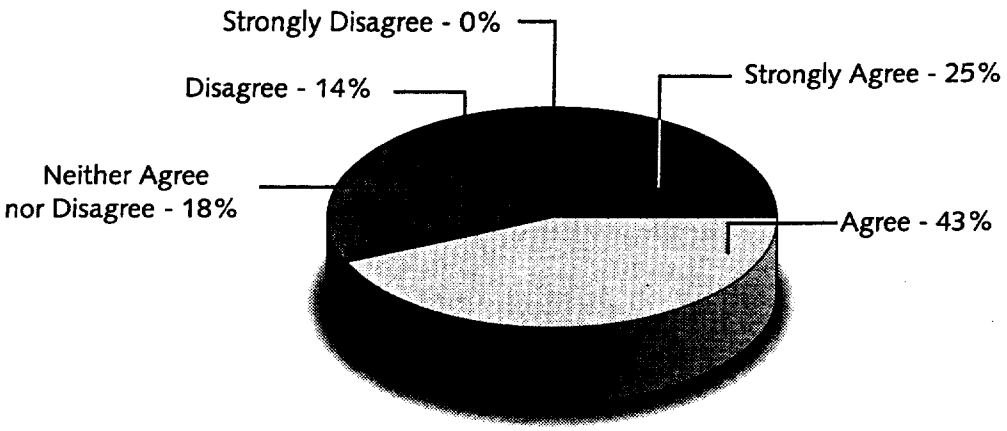
What Are Their Expectations?

The users define the sweet spot of their expectations very well: 56% of the respondents expect that moving to an integrated carrier will result in lower service costs; 58% of the respondents agree or strongly agree that an integrated carrier will require less effort to manage the network. In listing the attributes for selecting a carrier, 95% of the respondents indicated that reliability of service is the single most important attribute.

Clearly, integrated carriers will have to demonstrate that they have the highest reliability of service, can provide tangible cost saving, and can provide the tools and services to provide greater manageability of the network and applications and convince the buyers of their viability.

Finally, as the assessment of the current carrier indicates, a large number of respondents believe that their current carriers do not understand the unique requirements of their business and are not very responsive to their needs. We believe

Exhibit ES-2
Would You Consider Moving to an Integrated Carrier?
Source: the Yankee Group, 1997



this provides a unique opportunity for an integrated carrier to leverage its full service portfolio to bundle customized solutions that address the unique needs of large corporations.

Report Outline

The Report is organized as follows:

- Chapter 1 defines an integrated carrier and outlines the drivers that have fueled the integrated carrier value proposition. The chapter also describes the most important attributes used by large corporations in selecting their carriers. We also present an evaluation of their current carriers based on those attributes. The chapter further discusses the changes and challenges anticipated by these corporations over the next five years. It shows what opportunities these changes and concerns present to integrated carriers.

- Chapter 2 answers key buying behavior and perception-related questions. Will the customers buy? What benefits do they perceive? What expectations do they have from the integrated carriers? How can integrated carriers meet those expectations?

- The final chapter addresses the supply side. It describes the current split of services and traffic between primary and secondary carriers, and how that may effect users selecting an integrated carrier. The chapter also briefly outlines the leading IXCs' and Bell Atlantic's evolution as integrated carriers.

Chapter 1
Integrated Carriers and Customer Needs

This Yankee Group Report evaluates the appeal of the concept of integrated carriers to the high-end business market—the *Fortune 1000* companies. Therefore, it limits itself to those carriers that hope to address the needs of this market segment.

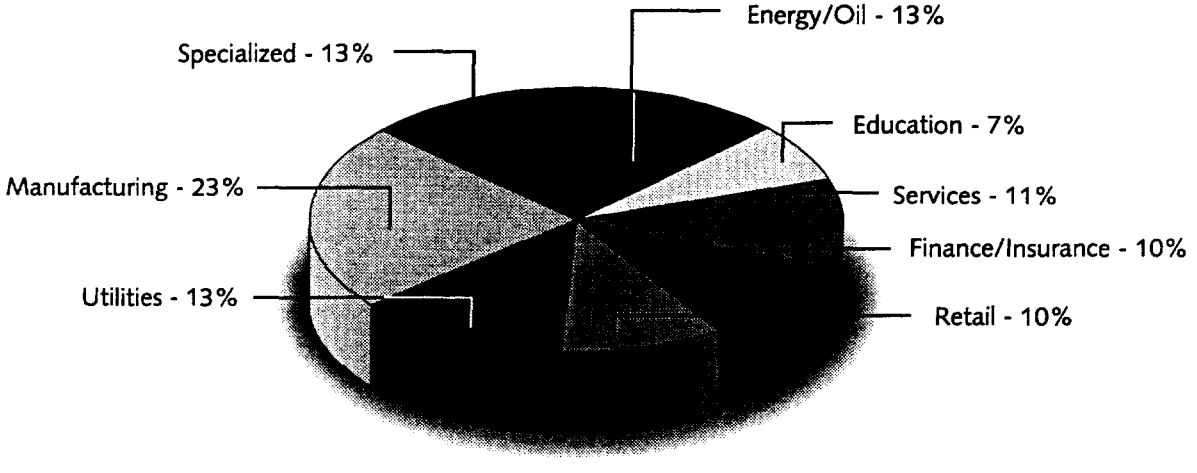
The evaluation is primarily based on the Yankee Group YGC 100 survey. The YGC 100 survey is a comprehensive research tool that surveys 300 of the *Fortune 1000* companies. It targets telecom managers and tracks the decision criteria, buying behavior, adoption, and use of carrier services and products in the *Fortune 1000* companies. The industry representation of the YGC 100 is detailed in Exhibit 1-1.

This Report explores two main themes:

- *Is it worthwhile being an integrated carrier?* Will the customers buy? What is the existing demand for services and products that make "integrated carrier" a viable business proposition for the users?

- *What does the high-end business segment expect from an integrated carrier?* What is the most compelling value proposition an integrated carrier can offer to the high-end business segment? Is it built around price? Performance? One-stop shopping? Value-added services?

Exhibit 1-1
The YGC 100 Industry Representation
Source: the Yankee Group, 1997



We believe that by exploring these themes, IXCs and RBOCs will better understand what they must do to address the needs of the large corporations.

1.1 What Is an Integrated Carrier?

We believe the integrated carrier is an evolutionary concept. Over the last three years, most carriers have begun their transformation into integrated carriers, influenced primarily by the need to move up the value chain and by customer demand for more than just commodity services. For example, the major long-distance carriers have been able to provide a combination of access and long-distance services to their largest clients. Likewise, data services and enterprise networking have been staples for many years now.

However, until recently they were constrained by regulations that prevented them from becoming "true" integrated carriers. In particular, the RBOCs and IXCs have been unable to enter each other's markets.

As these distortions disappear, and as today's carriers become more integrated—offering full end-to-end connectivity—so too will the distinctions between long-distance and local carriers erode. Any carrier can offer a full suite of services; it can become integrated.

We believe that as this process evolves, two things will occur:

- Users and suppliers alike will place a greater emphasis on value added, and
- Carriers will compete on solutions (not just on whether they offer the lowest price or the best coverage).

Ultimately, these trends will mean that as an industry, we will move away from buying and selling discrete technologies from different suppliers—local service from a local company, long distance from a IXC, data from a value-added network (VAN) provider—toward a world in which users select suppliers on the basis of delivering solutions.

For example, if a user chooses Carrier A for its call center solution, that solution would typically include the transport (local, long distance, international), network-based services (800, network-based ACDs, and intelligent routing), alternate access (IP connectivity and interoperability for Internet-based interfaces), and systems integration support, to implement this entire solution.

In effect, this will create a paradigm shift, albeit gradually, in how carriers are selected—a shift away from stand-alone independent services and toward integrated solutions.

1.1.1 A New Segmentation and Value Chain

What does this mean?

If each leading carrier has the requisite tools to be an integrated provider-local, long distance, and data, for example—users will ultimately evaluate carriers in terms of how they combine and use these tools to solve problems. We envision an environment in which carriers compete in areas such as call center applications, intranet and enterprise multimedia solutions, and mobile computing. As we review the suppliers in Chapter 3, there is evidence of this trend already. The global networking market is a good example of how carriers compete in delivering managed network solutions.

The natural progression of this thesis is toward a time when solutions become highly customized and application-specific. Tools are "plugged and played" in myriad ways to satisfy particular user needs. *Ultimately, for the lower end of the large business segment, the industry will adopt mass customization as a goal. In practice, as carriers move towards the upper-right-hand quadrants, solutions will require a greater degree of integration and higher levels of value-added.*

This in turn will mean that some carriers develop expertise or best-practice capabilities in certain areas. One carrier, for example, may demonstrate particular skill in the call center segment, another carrier may focus on delivering video-based solutions, and so on.

Likewise, we will stop thinking in terms of RBOCs versus CLECs, but rather in terms of full service providers.

Users' thinking will evolve, too. Whereas they buy long distance today from one carrier (or more) and local services from another, they will buy their intranet, call center, and mobile computing solutions from different suppliers.

In each case, the suppliers will be integrated. They will be able to supply all of the tools necessary to build a product. In some cases, users may select a single carrier to provide everything. Some users, as we show in Chapter 2, are clearly willing to move toward sole-source environment. However, sole-sourcing will be primarily for "generic" (local, long distance, etc.) services only.

But in most cases, we believe that the concept of an integrated carrier will drive users and suppliers to focus more on the delivery of solutions, which, like today, will demand a multiple-supplier environment.

We believe that the first step in becoming an integrated carrier to the large corporations is to be a full service provider. This means that carriers should be able

to offer a comprehensive suite of voice and data services, wireless services, international reach for global networks, network management offerings, and systems integration capabilities (see Exhibit 1-2).

Later in this chapter we will evaluate in greater detail the leading corporate needs that are addressed by the services mentioned above, which allows us to differentiate between essential and non-essential services within an integrated carrier's service portfolio.

These trends don't mean that the old value chain has been broken. As Exhibit 1-3 shows, "POTS"-type services will still be evaluated as they are today. The criteria of price, performance and reliability will still be important. The segmentation model outlined in Exhibit 1-3 does not preclude that buying behavior.

However, as carriers move up the value curve, the decision criteria and the decision makers could change for each service.

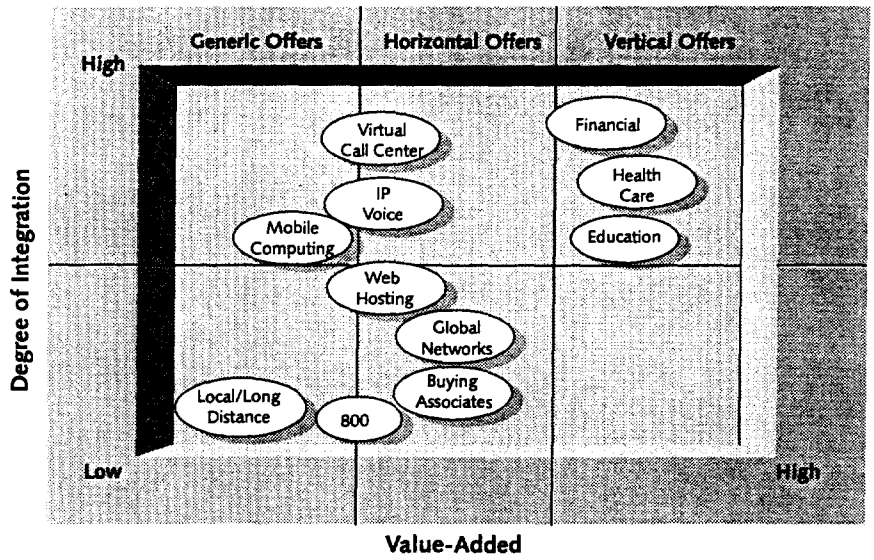
From a carrier's perspective, integrated solutions will require a significant shift in how they are sold. For many of the new services, especially those that are highly integrated and those that are vertically focused, will have different influencers and quite possibly very different decision makers than those to whom the carrier account managers have traditionally sold . As shown in Exhibit 1-4, these new influencers

Exhibit 1-2
Integrated Carriers, Tool Kit by Market Segment

Source: the Yankee Group, 1997

Services	Large Business—More than $75,000 per Month	Medium-Sized $5,000 to $75,000 per Month	Small—Less than $5,000 per month (Mass Market)
Local	√	√	√
Long Distance	√	√	√
International	√	√	√
Cellular	√	√	√
Paging	*	*	√
Data Services	√	√	*
Network Management	√	*	**
Systems Integration	√	*	**
Global Networks	√	*	**
Internet Access	√	√	√
Content Hosting	**	*	*
Video/Cable/DBS	**	**	**
	√ = Essential	* = Required but Not Essential	** = Not Required

Exhibit 1-3
Integration: Value Matrix for Application/Solution Sets
Source: the Yankee Group, 1997



and decision-makers could be CIOs, CFOs, corporate planners, IT managers, and electronic commerce mangers. These are functions that are not traditionally associated with the purchase of carrier services.

This means that carriers will have to undergo a systemic change in how they sell to large organizations. Further on in this Report, we will briefly describe how the carriers are putting in place new organizational sales structures to help them adapt to selling integrated solutions to large users.

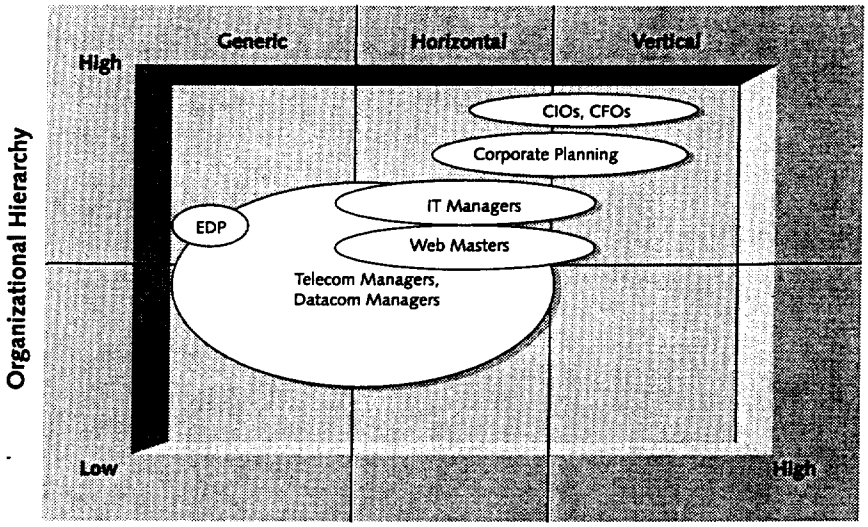
1.1.2 What Are the Drivers That Have Fueled the "Integrated Carrier" Value Proposition?

We believe there are three major drivers that have spurred carriers to consider becoming integrated carriers:

- *The fragmented supply side—lack of one-stop shopping.* Over the last 10 years, corporations have had to seek multiple vendors for their communications services. At the most basic level, they have had to turn to LECs for local services and the IXCs for their long-distance needs. Until recently they have not been able to find a single wireless carrier with a national footprint. For their global networks, they have had to deal with a multiple set of suppliers—influenced primarily by the country of location, the nature of regulation, and the state of the network in those countries.

Exhibit 1-4
The Changing Buying-Decision Matrix

Source: the Yankee Group, 1997



This process of juggling multiple vendors and optimizing the process has burdened most telecom mangers who are seeking one-stop shopping and in the process simplifying the management of multiple vendors and technologies.

- *The changed industry structure.* The Telecom Act of 1996 has been perhaps the most significant influencer in the concept of an integrated carrier. Primarily, it has erased the barriers to competition, giving the carriers not only access to each other's markets but also the ability to resell, interconnect, and provide bundled services.

  Domestically, we believe that the new industry structure will mitigate the issue of a fragmented supply side (litigation notwithstanding). By reselling and bundling service offerings, many carriers will be able to provide one-stop shopping.

- *Increasing complexity of the services and the network.* The new and emerging applications such as the Internet, intranets, and multimedia are creating complex interfaces between local-area networks (LANs) and wide-area networks (WANs). Many of these applications require strong integration between communication requirement and information sharing, processing, and warehousing. Such developments are changing how services are deployed and delivered within an organization.

Managing this process and the diverse network elements requires network management support and systems integration capabilities. An increasing number of corporations are turning to the carriers to provide some of these services or actively assist them in managing the complexity of the network. This has motivated the carriers to develop new capabilities to offer such services and grow beyond the traditional service model of a carrier.

The Yankee Group believes that to assess the appeal of an integrated carrier to large businesses, it is important to understand how users choose and rate their current service providers. We also believe an understanding of the changes and challenges these corporations expect in their network and network services over the next five years provides a view of the future needs of large corporations that any carrier would find invaluable in developing its value proposition.

Indeed, even as the future develops, as we discussed in Section 1.1, carriers will still need to address the very basic needs of users (reliability, manageability, etc.).

The following section evaluates all of the above and provides a window on the nature of the existing demand, and on how that is influencing the future demand of services from the integrated carrier.

1.2 How Do the Users Choose and Rate Their Current Carriers?

Using the YGC 100 survey, we have broken the above issues into three major sections:

- What attributes do users evaluate in selecting a carrier, and how important are the attributes?
- How do users rank their current service providers against these attributes?
- What major changes and problems do users see occurring in their networks over the next five years?

1.2.1 Evaluating Carriers: Reliability and Cost Prevail over Comprehensive Portfolio

Exhibit 1-5 presents the responses to the question, Which of the following attributes are important in selecting a carrier? The results underline the fact that large corporations value reliability of service as the most important attribute. Ninety-five percent of the respondents believe reliability of service is extremely or very important in selecting existing carriers.

Being the least-cost provider was the next most important attribute. This clearly indicates that even for large corporations price and bottom-line costs remain important.

In a close third place, tallying almost as much as being a least-cost provider, was the ability to provide enterprise-wide voice and data networking services.

Slightly over 80% of the respondents indicated that being able to provide enterprise-wide voice and data networking services was extremely or very important in the selection of their carriers. This strongly emphasizes that (perhaps even more than voice services) the ability to provide and network-data services has become a key attribute in selection of a carrier. Any vendor that aspires to the corporate market must have the data services and networking competency to be considered a contender for large businesses.

Interestingly, the ability to provide a comprehensive service portfolio, including local, long-distance, and wireless services such as paging, Internet access, and international—essentially a full service provider—was rated second to last (based

Exhibit 1-5
Attribute Ratings in Selecting Existing Carriers

Source: the Yankee Group, 1997

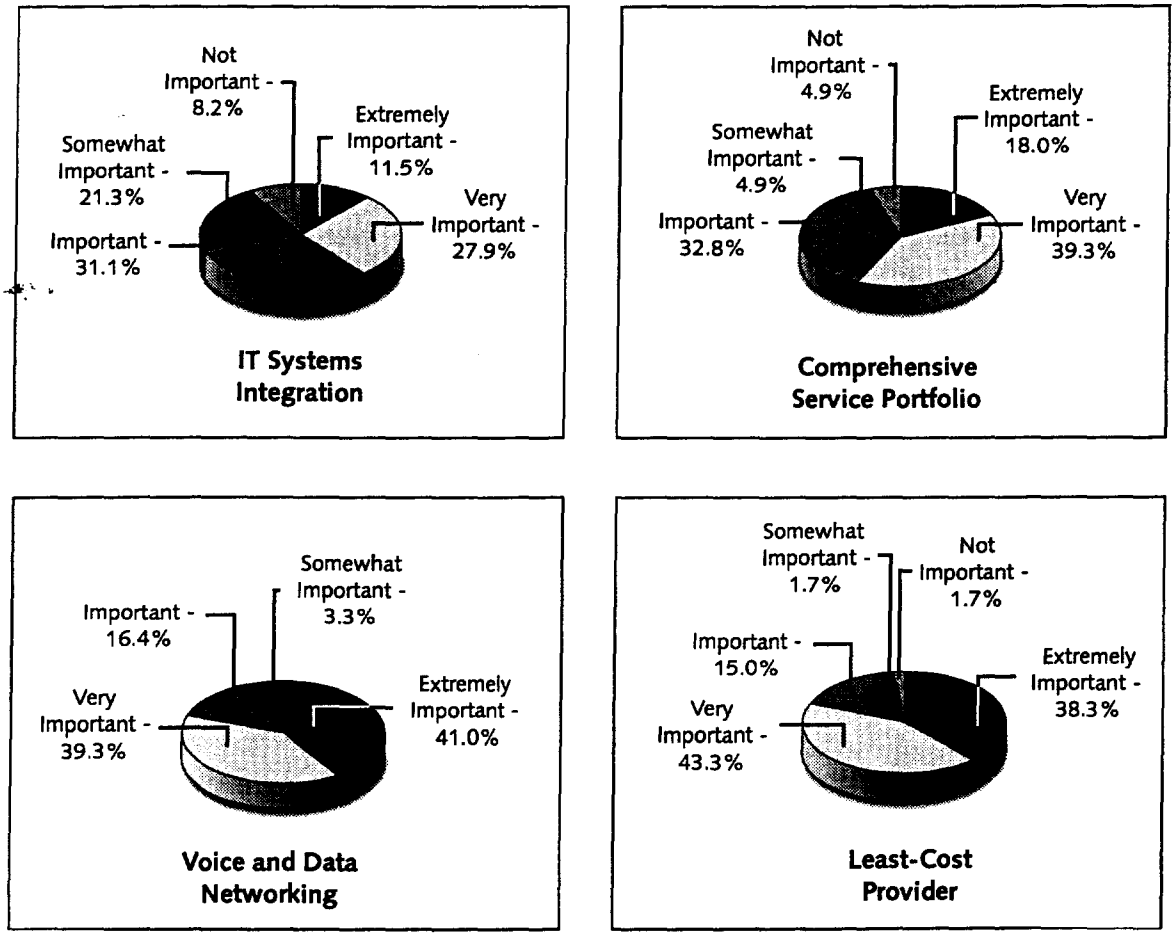
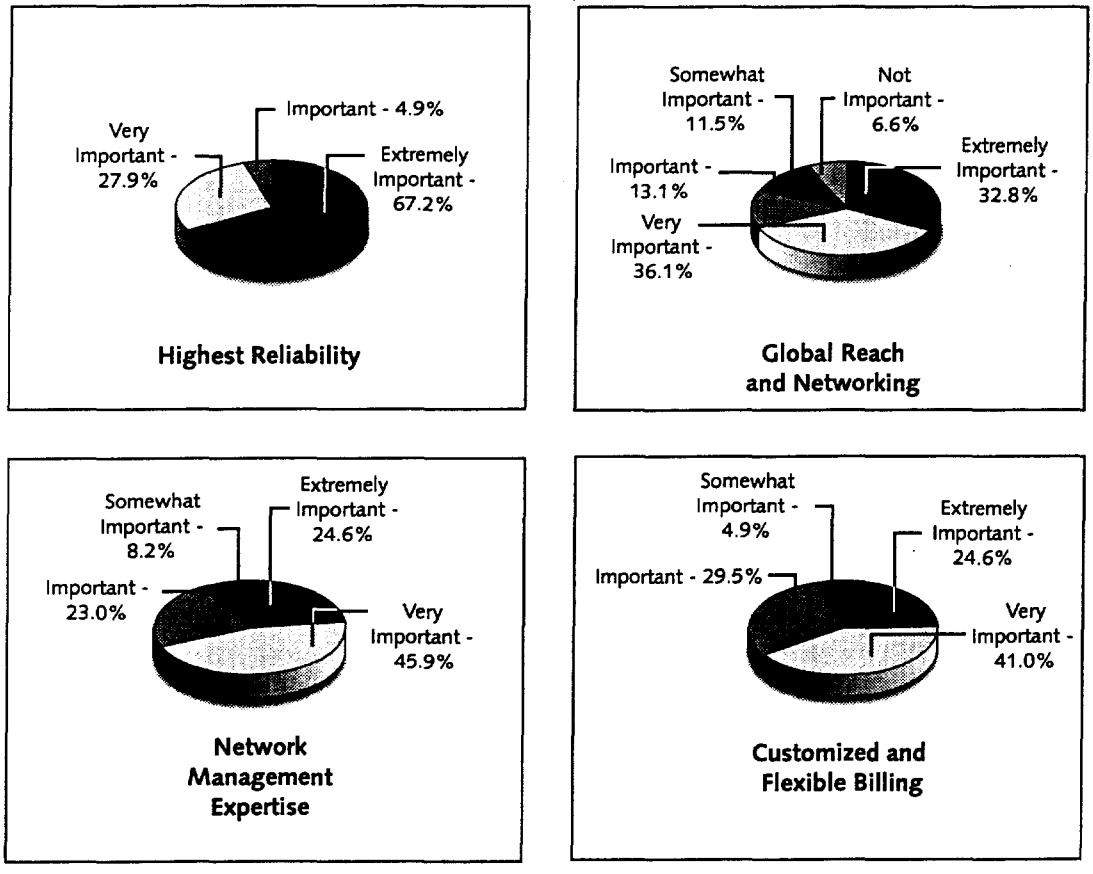


Exhibit 1-5 (continued)
Attribute Ratings in Selecting Existing Carriers

Source: the Yankee Group, 1997



on the combined scores of extremely and very important). Around 58% of the respondents indicated that this was an extremely or very important attribute. This, we believe, highlights the fact that being a comprehensive service provider is not enough. An integrated carrier has to offer more. As we will see later in Chapter 2, the users expect more bottom-line benefits and solutions from an integrated carrier, and not just a restaurant menu of services.

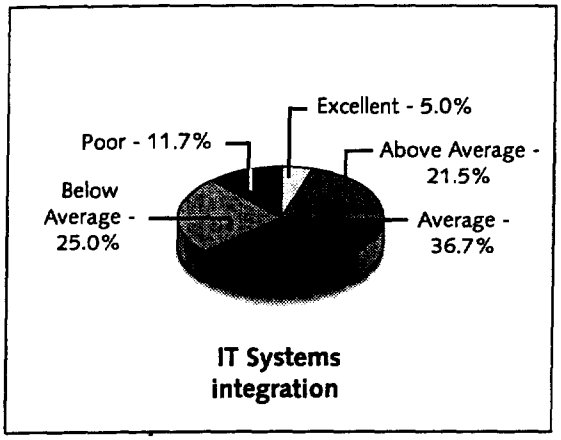
1.2.2 Carrier Ratings: Just Short of the Mark

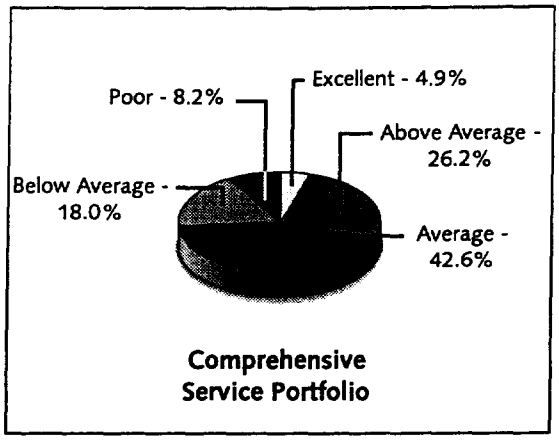
By and large, users like what they get from their carriers today, but these carriers fall short in areas that will ultimately be important in their becoming better solutions providers.

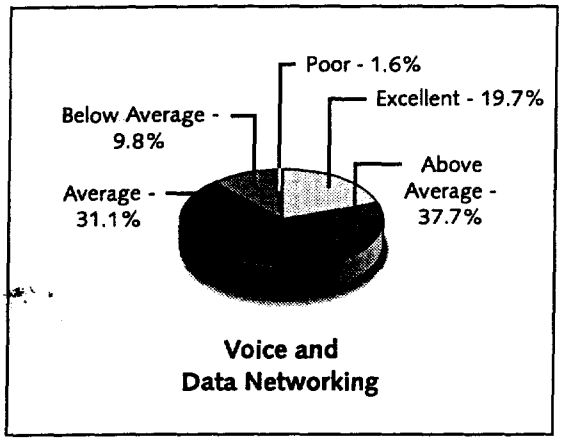
As shown in Exhibit 1-6, the three leading attributes on which the carriers received excellent or good ratings were reliability, low cost, and voice and data networking, matching the top three attributes used in selecting carriers (see Exhibit 1-5).

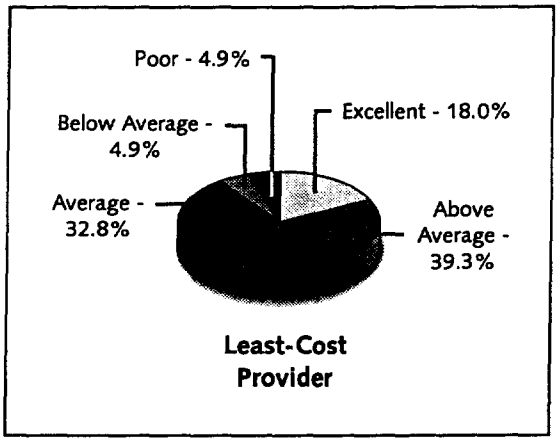
Exhibit 1-6
Attribute Ratings of Their Current Carriers

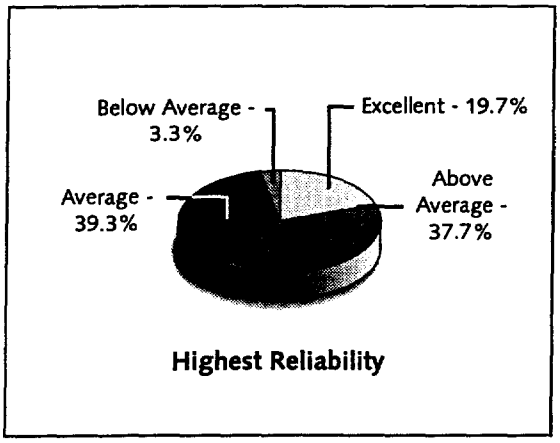
Source: the Yankee Group, 1997











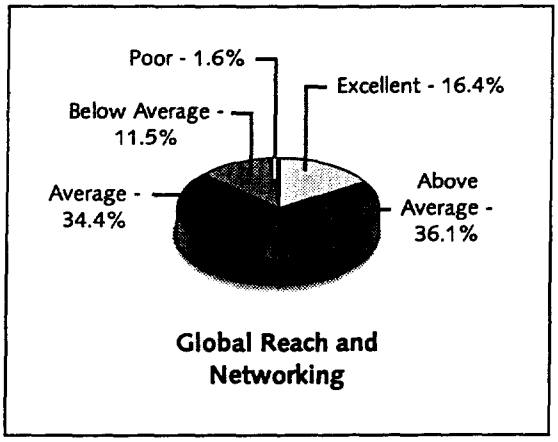
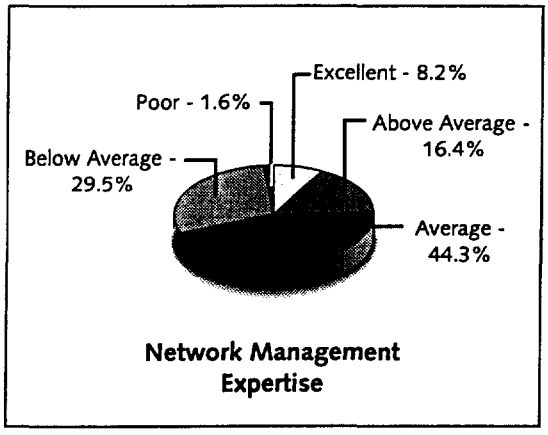
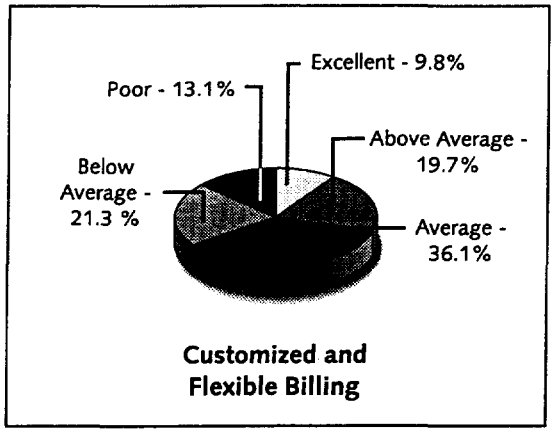
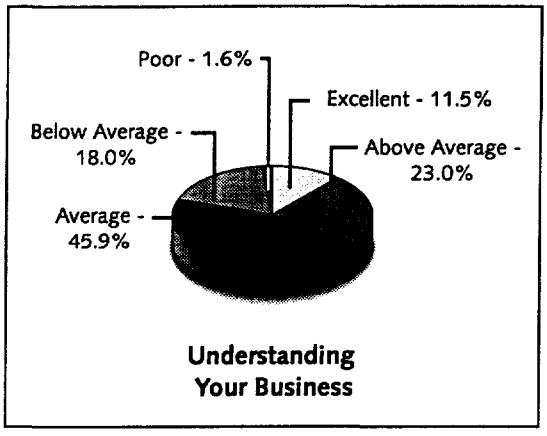


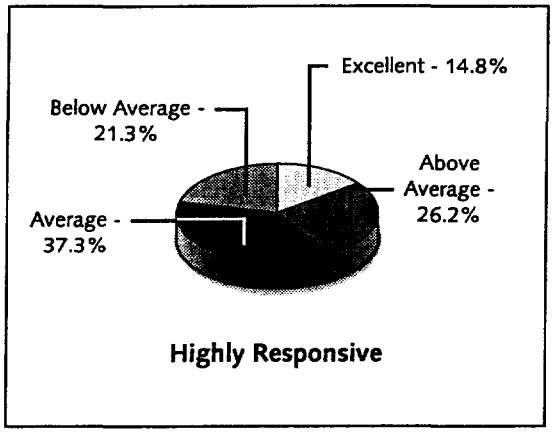
Exhibit 1-6 (continued)
Attribute Ratings of Their Current Carriers

Source: the Yankee Group, 1997









These ratings indicate some positive trends. Most importantly, the carriers have been able to meet the expectations of the users to a certain degree, in these three important areas, which is indicated by over 55% of the respondents rating their carriers as excellent or good in those functions. It also indicates that the carriers realize these three attributes are the most important in selecting a carrier, and they that have tried to address these attributes to the satisfaction of a majority of the large business customers.

The attributes for which carriers receive low ratings are:

- Customized and flexible billing, with 40% of the respondents rating their carriers as below average or poor, and
- IT systems integration, with 44% rating their carriers below average or poor.

Although traditionally not a carrier function, systems integration capabilities—the growing integration between network communications and information gathering, warehousing, and disseminating—are increasingly becoming a strategic tool in expanding a carrier's ability to become a solutions provider and progress along the value chain.

In addition to the more typical, quantifiable parameters, we added two qualitative attributes in the ranking of the carriers. These were: How much do the carriers understand your business and its unique needs?; and How responsive are they to your needs? In our opinion, understanding your customer's unique needs and being responsive to those needs is the first step in becoming a solutions provider.

Over 65% of the respondents rated their carriers as average or below average in understanding their business and its unique needs, and in being responsive to their needs. We believe this is a significant shortcoming on the side of the carriers. As they evolve into integrated carriers and aim for mass customization, it becomes imperative to understand their customers' businesses, allowing the carriers to develop unique solutions for those businesses.

Keeping the future in mind, we dedicated a section of the YGC 100 survey to looking ahead over the next five years and assessing the changes and challenges *Fortune 1000* corporations see in their network. The next section is devoted to their responses.

1.3 Five Years from Now, Applications Drive Needs

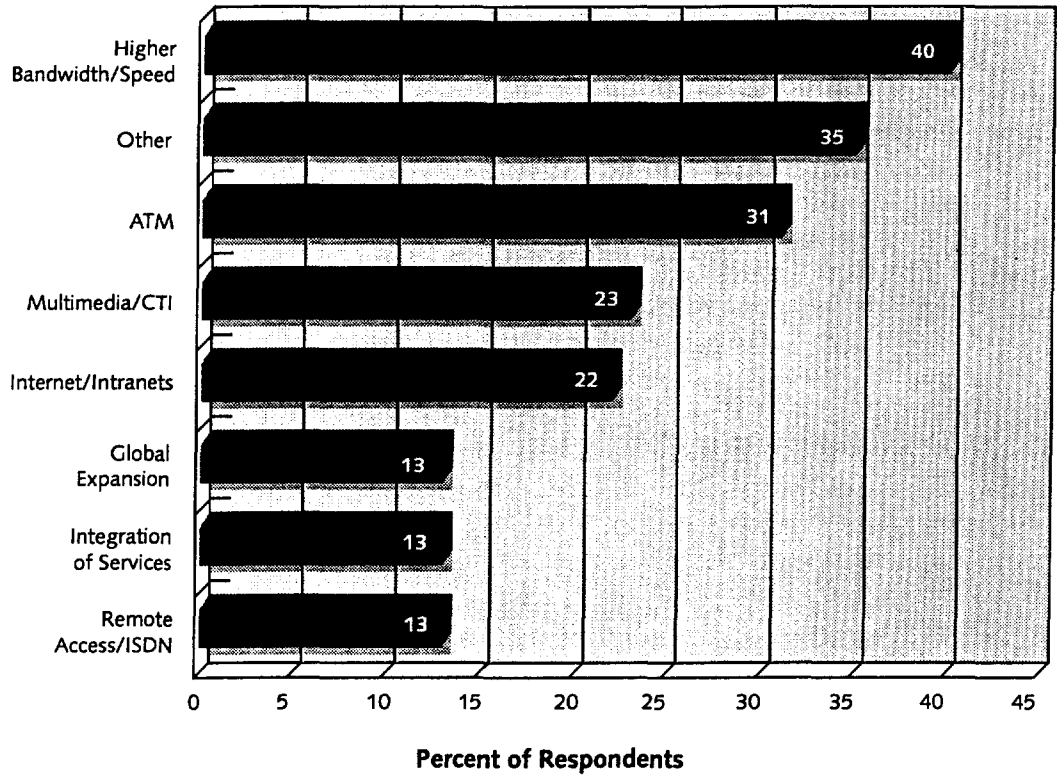
Keeping in mind that an integrated carrier should not limit itself to addressing the current needs, but should also prepare for future offering, we asked the respondents to tell us in their own words what they believe will be the most important *changes* in their networks over the next five years (a review of their problems appears in Section 1.5). As the following subsection details, users' responses reflect their anticipation of new applications.

1.3.1 Bandwidth and Speed: Broaden the Road and Step on the Gas

As shown in Exhibit 1-7, 40% of the respondents indicated that they expect to see higher bandwidth and faster speeds across the board. What is surprising about this response is not that customers expect faster speeds, but the magnitude of those anticipated speeds: the respondents expect the speed and throughput to grow by a factor of 10. For example, at the enterprise level, they expect to see Gigabit Ethernet, and a move to near-LAN speed on the WAN.

Most respondents provided detailed reasons why they thirst for more bandwidth. Most indicated that the growing organizational requirement for services and applications—essentially just keeping up with the demand—requires higher bandwidth and speeds.

Exhibit 1-7
What Changes Do You Anticipate in the Network over the Next Five Years?
Source: the Yankee Group, 1997



Some of the respondents did not indicate speed in terms of measurable parameters. Instead, they listed applications such as high-speed file transfers, real-time data sharing, integrated services, and faster connectivity with remote sites—all of which will drive the need for increased throughput.

1.3.2 ATM Is Coming, ATM Is Coming . . .

Almost a third of the respondents expect to see widespread deployment of asynchronous transfer mode (ATM) in the network over the next five years (see Exhibit 1-7). The explosion in data communications, especially at the WAN level, appears to be the underlying reason for these beliefs. The expectations of widespread deployment of ATM further strengthen the earlier mentioned need for bandwidth and higher speeds.

1.3.3 Multimedia and CTI

Twenty-two percent of the respondents indicated that they see multimedia, integrated services, and computer-telephony integration, (CTI) to be much more widespread

than current levels (see Exhibit 1-7). The responses here cover a number of multimedia technologies and applications. Most respondents indicated that desktop video, real-time data and screen sharing, CTI for call centers and desktops, and videoconferencing are the applications they are expected to be most widespread.

1.3.4 Internet and Intranets: An Integral Part of the Enterprise Environment

Twenty-one percent of the respondents indicated that they expected to see widespread use of the Internet and extensive deployment of intranets for enterprise-wide communications and information services applications. Most see the Internet and intranet being used as tools for many more functions within and outside the organization. Use of the Internet to disseminate information, conduct interactive commerce, and act as a medium of communication is expected to grow significantly over the next five years.

Although security is cited as a concern, there is fairly widespread belief among the respondents that many of the security issues will be resolved over the next five years.

1.3.5 Others

As shown in Exhibit 1-7, the "other" category contains a number of responses that are not statistically significant to merit a separate category. But aggregated together they constitute almost 35% of the respondents. Therefore, it is important to highlight some of them:

- *Greater competition.* A number of respondents believe that new applications and services will bring much greater competition.

- *Incompatibility of components.* A few respondents indicated that they expected greater incompatibility between diverse network elements due to new applications and platforms.

- *Higher rate of obsolescence.* An increasing rate of obsolescence for existing hardware equipment and systems is a concern to some of the respondents. This concern emphasizes the fact that carriers must build and offer expertise in areas of systems integration and design, thereby allowing large users to leverage existing equipment and platforms for new applications and services.

- *More reliance on the public network.* A few respondents indicated that they expected some of the applications and services that currently reside in their enterprise networks to migrate into the Public Switched Telephone Network (PSTN).

A few responses focus on anticipated organizational changes such as more centralized network planning. Others have qualitative comments about emerging

networks and increased complexity, increased flexibility, and more outsourcing. There are limited references to greater use of wireless and mobile applications in the organization.

1.3.6 Conclusion

The important underlying message here is that six of the eight changes anticipated by respondents are technology- and applications-related. These changes are either for new or better performing technologies, or for wider deployment of new and existing applications.

For integrated carriers—or any carrier, for that matter—keeping technology and applications offerings current becomes an important issue. We believe it specifically affects the RBOCs and the second-tier carriers if they hope to address any of the *Fortune 1000* market, because, as we previously indicated, a majority of the changes anticipated by large users in their network are technology-related.

For integrated carriers, it is crucial that they build strong Internet/intranet offerings, CTI, and multimedia platforms, and expect to deploy broadband technologies extensively for this market segment. Although we recognize that applications versus bandwidth sometimes can be a chicken-or-egg debate, there is no doubt that growing need for bandwidth is a reality.

The next most important message is about supporting technology migration. Most respondents indicate that planning for increased bandwidth and providing support for new applications are a major concern. Respondents would see significant value in a service that addresses these issues.

We believe, however, that integrated carriers can convey even greater value by addressing the *problems* anticipated by the respondents over the next five years. These problems, in users' own words, are outlined in the next section.

1.4 Seeking Skilled Manpower, Performance, and Management of the Network

The responses to the question "What challenges do you expect over the next five years?" are diverse. Broadly speaking, the concerns center on new technologies, new applications and services, their management, and reliability issues. There are also some concerns about managing the growth of new applications, and about managing the organizational expectations of the growth process.

The following are some of the leading challenges, as outlined in Exhibit 1-8.

1.4.1 Where Are All the "Good People"?

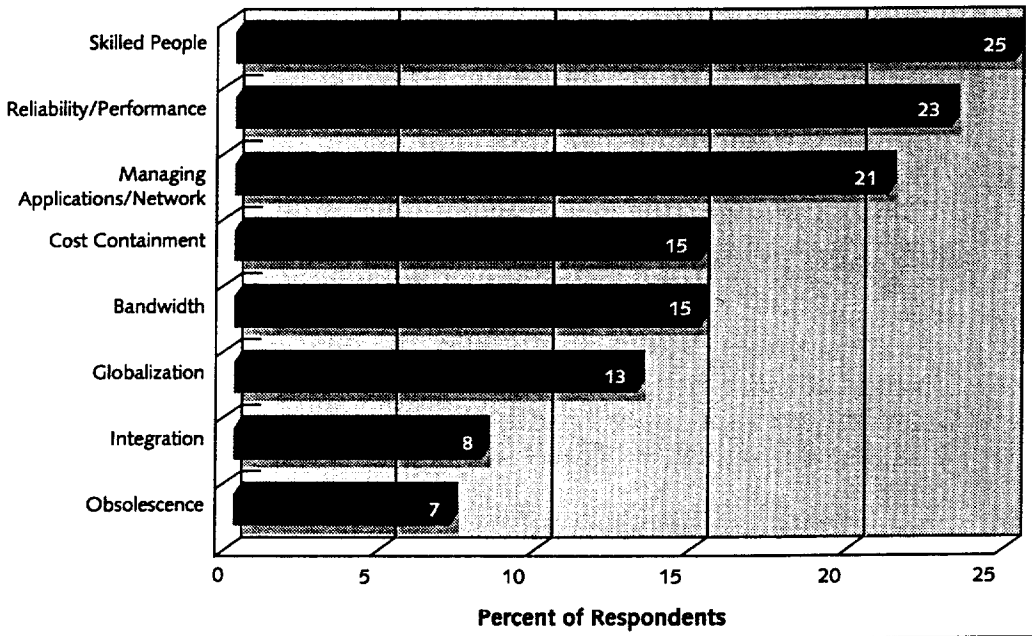
As shown in Exhibit 1-8, one-fourth of the respondents indicated that their most important challenge is finding and retaining skilled manpower. Most indicated that the pool of skilled and knowledgeable manpower in the industry is not growing at a rate that will support the growth and rate of technology change. Many of the respondents also saw a significant increase in the cost of retaining skilled personnel due to increasing training and other related costs.

The types of skilled personnel appear to run the entire gamut from line staff that design, install, and run networks, to software and hardware support personnel. As network managers of the *Fortune 1000* companies look at their personnel requirements over the next five years, there appears to be a strong consensus that finding and retaining "good people" to design, operate, and maintain communications needs is their biggest challenge.

1.4.2 The Usual Suspects: Reliability and Performance

The age-old concern about the reliability of the network and performance of the services and equipment appears to be more magnified with the increasing complexity of the network, integration of services, and new applications. Primarily, the

Exhibit 1-8
What Challenges Do You Anticipate by the Users over the Next Five Years?
Source: the Yankee Group, 1997



respondents appear focused on three broad areas: security, disaster recovery, and interoperability. These three concerns cut across two additional elements identified by the respondents as the imminent areas of challenge and concern:

- *The reliability of the enterprise network under the weight of new applications.* We believe that most of the users are, in general, satisfied with the reliability of their current enterprise networks. But in our opinion, users fear that existing standards of reliability may not be sustainable with new and emerging applications such as intranets, multimedia and integrated services.

- *Accommodating client/server architectures.* We believe that non-traditional network architectures such as client/server—which are migrating over from computing into communications—raise concerns about supporting traditional communications applications. Many respondents appear unsure about how these new architectures will affect traditional applications.

1.4.3 Cost Containment and Resource Constraints: "Get Me More for Less"

About one-sixth of the respondents believe that cost containment will be a major challenge for them over the next five years. They expect growth in costs across the board. We expect that a number of new services and applications will be variable-cost/usage-based services, moving away from the fixed-cost paradigm many respondents have traditionally lived by.

Users believe that they will be forced to seek increased bandwidth with lower budgets. Although bandwidth costs are declining, they believe that new bandwidth-intensive applications will push their costs higher. Although none of the respondents cited any specific figures or ratios, there appears to be a strong belief that increased bandwidth comes at an increased cost, especially in terms of greater support, complexity, and staffing overheads. Although all respondents expect their budgets to grow (higher growth on the data side, lower or flat on the voice side, but total net growth), they fear that costs will grow faster. This, most believe, will make the task of balancing bandwidth versus cost a great challenge.

1.4.4 Globalization: Challenges of Transferring Network Platforms and Applications in the PacRim and Latin America

A strategic focus on globalization by large businesses has resulted in an expansion of international locations and facilities including manufacturing, distribution, and warehousing. This brings unique challenges to network managers who are expected to deliver services, platforms, and applications that are deployed seamlessly in the United States to global locations. For many network managers, setting organizational expectations becomes an important element in managing global growth.

Geographically, Latin America and the PacRim are most frequently mentioned by YGC 100 respondents when their organizations either have a significant presence or are expecting to grow rapidly in the next five years. Although no specific applications or network elements are mentioned, the consensus is that lack of skilled manpower, lack of network reliability, and lack of services in foreign locations are the primary concerns.

1.5 What Can an Integrated Carrier Do to Address These Concerns?

These concerns provide an opportunity for integrated carriers to fine-tune their value propositions in ways that allow them to provide the right service and support systems. Looking at the responses in their entirety, one interesting trend becomes obvious. Very few respondents specifically mention an application or a technology that they see as challenging. Their worries have less to do with choosing one technology or one platform over another, and more to do with how to handle the processes around the design, implementation, and performance to meet the organizational requirements and expectations with new applications and services, regardless of the platforms or the technology.

The other two major concerns—globalization and managing the network—ideally position the integrated carrier to address them. An integrated carrier with strong global alliances and partnerships will play a crucial role in developing true global network capabilities that can assist the customers in deploying and managing their global growth. The closer integrated carriers can come to the goal of seamless global network (allowing same services, applications, and platforms to be deployed regardless of the country of location), the more compelling will be their proposition to the large corporations.

Managing the network is perhaps a more complex issue. Many corporations, regardless of the pain involved in managing their network, will not outsource it. Therefore, to offer comprehensive network management services and take over a customer's network may not always be an optimum solution. However, any initiative that will allow them to make the processes simpler, easier, and less costly will undoubtedly be compelling. As indicted in the earlier sections, the prospects of reducing the number of vendors, and thereby reducing cost, provide most users a reason to consider integrated carriers as a viable proposition.

Not indicated in this survey, but important nonetheless, is the question of how much outsourcing capabilities integrated carriers should offer. Past Yankee Group research has indicated that network management/integration outsourcing is an important part of the carrier's suite of services. If MCI's acquisition of SHL Systemhouse and Bell Atlantic's initiatives with Bell Atlantic Network Integration (BANI) are any indication, carriers have begun to build strong systems integration/management

competencies. We expect to see significant growth in this area. We believe that the ability to integrate diverse communications and information systems is essential to integrated carrier offerings.

But what are the expectations of users in this regard? What do they expect from integrated carriers? These questions become very important because, as we have seen earlier in the Report, it is not enough just to have a comprehensive service portfolio. The next chapter explores these questions.

Chapter 2
Will the Customers Buy?

Is it worthwhile being an integrated carrier? Will the customers buy? What is the nature of the existing demand for services that makes an "integrated carrier" a viable business proposition for the users as well as the carriers?

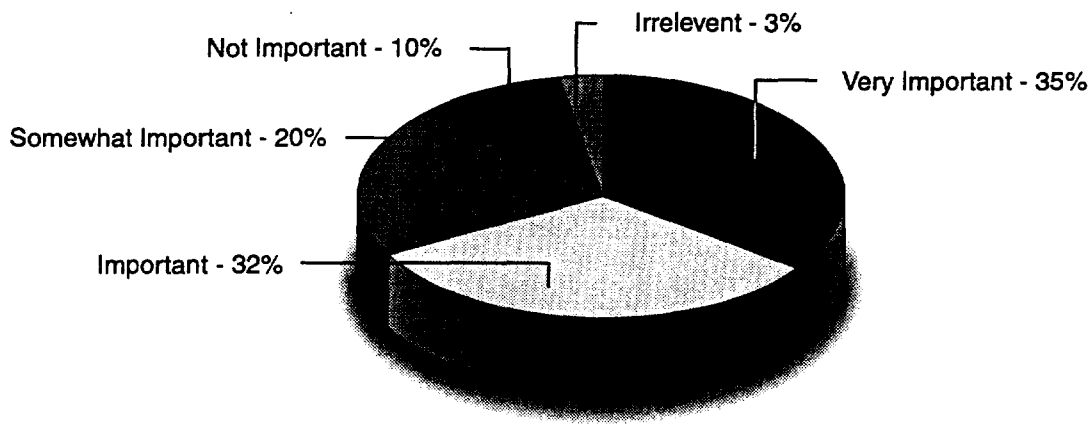
2.1 They Have Certainly Bought the Concept

We tested the proposition that in the near future, many of the existing carriers—as they evolve into integrated service providers—will start offering full-service portfolios. Some of them will become solutions providers offering systems integration, WAN and enterprise network management, network design and testing, and other communications-related services.

How important is it to the YGC 100 that either their primary or secondary carriers be integrated carriers?

As Exhibit 2-1 indicates, 67% of the respondents believe that it is important or very important that their primary or secondary carriers be integrated carriers. Only 13% of the respondents believe that it is not important or is irrelevant.

Exhibit 2-1
Should Your Primary or Secondary Carriers Be Integrated Carriers?
Source: the Yankee Group, 1997



The results indicate an important trend that is clearly beneficial to potential integrated carriers.

Primarily, there is a widespread acceptance of the integrated carrier concept. A carrier that bundles the optimum set of services appears to create value that corporations are willing to endorse. We believe this will allow carriers to avoid expensive education and awareness campaigns. One of the biggest barriers to new ideas is lack of acceptance by the prospect. This is clearly not the case here.

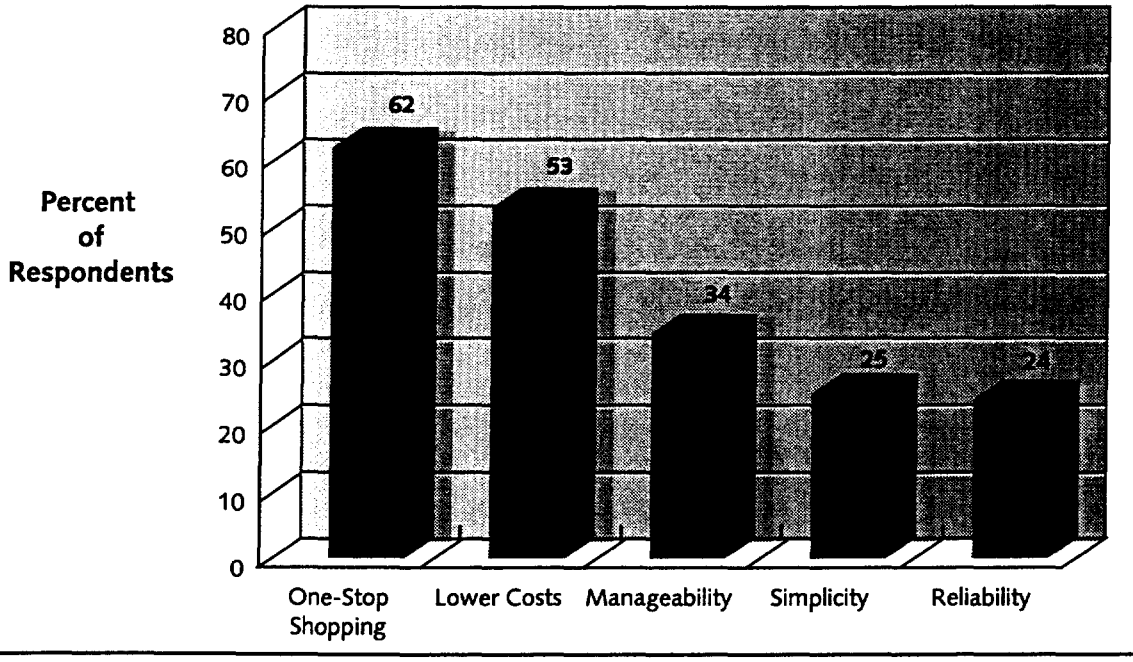
To be more specific about the perceived value of integrated carriers, we asked the YGC 100 corporations to explain what they see integrated carriers delivering.

The respondents were asked to describe *why* it is important to them that at least one of their carriers be an integrated carrier. Their responses are presented in Exhibit 2-2.

Respondents listed the following reasons—compiled under five broad categories, and in the order of importance—why they would like to see their primary or secondary carriers become integrated carriers: one-stop shopping, lower costs, manageability, simplicity, and reliability.

Exhibit 2-2
Why Would You Like to See Your Primary or Secondary Carriers Become Integrated Carriers?

Source: the Yankee Group, 1997



2.1.1 One-Stop Shopping Seems to Appeal, but for Very Different Reasons to Many Respondents

A clear majority—62%—indicated the primary reason they would prefer an integrated carrier is that it will deliver one-stop shopping. A majority of the 62% said that having one vendor will allow them to buy comprehensive service and solutions from a single service provider. However, a significantly large number (more than 30%) chose one-stop shopping for other reasons:

- *"No more finger-pointing."* Over one-third of those who chose one-stop shopping indicated that their primary reason is to stop the "finger-pointing" between vendors for failures and service issues. Their primary concern is to build accountability into the system. They believe that one-stop shopping holds one primary vendor responsible for failures and successes, allowing users to build a more efficient vendor management system for evaluations and performance management.

- *Lower internal and external costs.* Over half of the respondents indicated lower costs as the primary reason they would like to see their carriers become integrated carriers. Close to half of these respondents believe that the cost savings would come from economies of scale and volume discounts. The remaining half saw cost savings from lower staffing levels, and lower overheads as a result of dealing with one vendor. A small number (20%) also believe that the rise of the integrated carriers would generate more competition and, therefore, lower service rates.

- *Greater manageability of network elements and applications.* More than a third of the respondents (34%) believe that an integrated carrier will result in less effort to manage the networks. They further believe an integrated carrier will contribute to better orchestration of services and business processes. Close to 40% of these respondents think that this will also result in better utilization of bandwidth, as well as easier integration between services for multimedia and broadband applications.

- *Simplicity and one bill.* One-fourth of the respondents perceived a significant benefit in the simplicity of dealing with an integrated carrier because of a single source of billing. They expect that an integrated carrier will provide them with a more flexible billing system, which the current structure of multiple vendors do not seem to offer.

- *Higher reliability of the network.* Twenty-four percent of the respondents indicated that an integrated carrier would bring higher network and service reliability. Most believe that fewer vendors would dramatically cut down the number of points of failure, resulting in fewer outages, less down time, and reduced troubleshooting.

Having detailed the reasons why the respondents would like to see their primary or secondary carriers become integrated carriers, we pose the billion-dollar question: If your primary or secondary carrier evolves into an integrated carrier, would you seriously consider moving to a single carrier for most of your business?

2.2 A Majority Would Consider Moving to a Single Carrier, but . . .

As Exhibit 2-3 indicates, a large majority (68.1%) would consider moving to a single carrier for their business.

We are surprised to observe such a high percentage of respondents who either agree or strongly agree to move their business to a single carrier.

It is clear that the respondents feel strongly about the value an integrated carrier can provide. But most users we deal with regularly express more ambivalence. The difference may be in two important assumptions: first, an integrated carrier lowers service costs; and second, it requires less effort to manage the network.

2.2.1 . . . Only If It Saves Money . . .

Fifty-six percent of YGC 100 respondents believe that moving to an integrated service provider will save money. They either agree or strongly agree that integrated providers can lower service costs. An additional 26% of the respondents neither agree nor disagree with the above statement. If integrated carriers can demonstrate that users will save money by choosing them as their only carrier, it can convey a very compelling proposition to a majority of the large users.

Exhibit 2-3
Would You Consider Moving to an Integrated Carrier?
Source: the Yankee Group, 1997

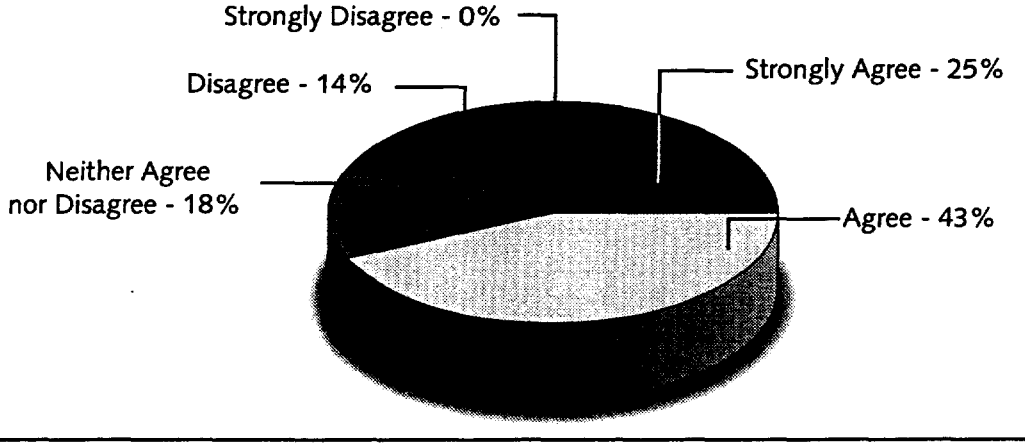
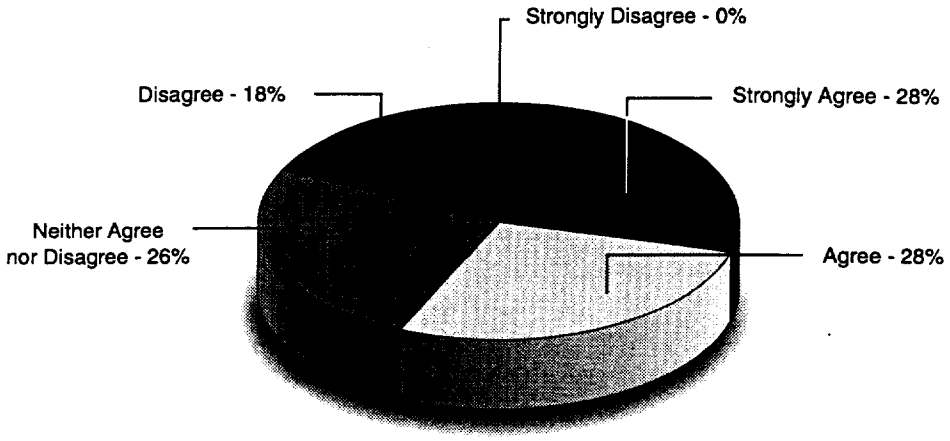


Exhibit 2-4
Do You Believe an Integrated Carrier Will Lower Service Costs?
Source: the Yankee Group, 1997

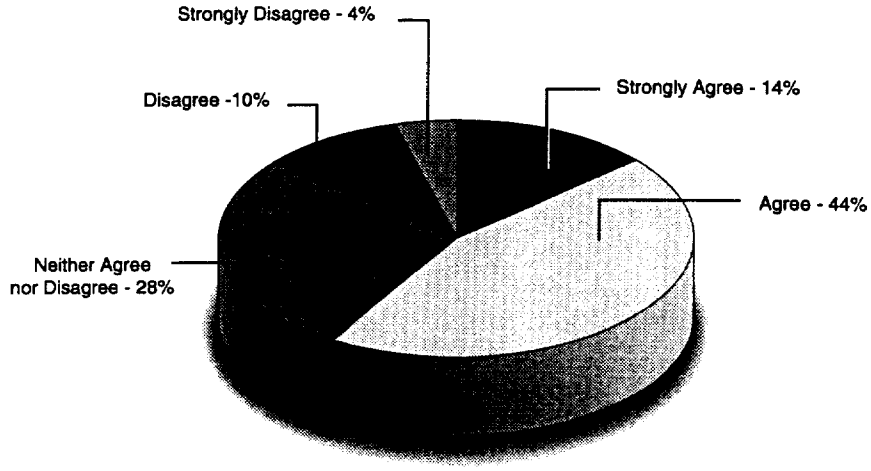


2.2.2 . . . and Requires Less Effort to Manage the Network

As shown in Exhibit 2-5, 58% of the respondents either agree or strongly agree that an integrated carrier will result in less effort to manage the network.

Clearly, YGC 100 users expect integrated carriers to take some of the pain out of managing a network. This reemphasizes the need for integrated carriers to expand their network management expertise and product capabilities.

Exhibit 2-5
Do You Believe an Integrated Carrier Will Require Less Effort to Manage the Network?
Source: the Yankee Group, 1997



2.2.3 Conclusion

The conclusions from this survey are clear. To a majority of respondents, the concept of an integrated carrier is appealing. They also indicate that they would move to an integrated carrier if it can demonstrate measurable cost savings and provide them with tools and services that minimize network management complexity. We also believe that users will source their services/solutions from more than one integrated carrier, based on which carrier can deliver the optimum solution for a user's unique needs and business practices.

But what happens to those carriers that are still behind the integrated carrier curve?—for example, those carriers that have yet to take the first step of becoming full-service providers, and those carriers that have only some of the services, rather than a comprehensive service portfolio. The last chapter briefly analyzes the opportunities that "pure play" carriers have in the new world of customized solution sets and integrated carriers.

Chapter 3
The Supply Side: Building a Comprehensive Tool Box and Focusing on Forward Integration

The discussions in the last two chapters focused on the respondents' attitudes, expectations, and perceptions of integrated carriers. We devote this chapter to a summary of the current suppliers.

We present an overview of carriers and of the extent of their integration since the Telecom Act of 1996. We also evaluate some examples of integrated offerings as precursors of future developments.

We mainly focus on the IXCs, since they have the largest share of the large business communications market, both in monetary value and volume of traffic.

However, before analyzing the carrier evolution and integrated offerings, we believe it is important to present an overview of how the users split their traffic between the carriers.

3.1 An Overwhelming Majority Use More than One Carrier

Our analysis found that over 75% of the respondents in the YGC 100 survey use more than one carrier for at least either a voice or data service. These users can be subdivided into two segments—those who use multiple vendors for the same service, and those who use different vendors for different services (even though a number of those services are available from a single vendor):

- *Multiple vendors for the same service.* Using several carriers for one service has been a trend in the industry for some time. Exhibit 3-1 shows the services for which corporations use secondary carriers.

  There are a number of reasons why users choose more than one carrier for the same service. For example, multiple carriers ensure redundancy and protection against network failure, or guarantee optimum price performance. Users also want to be sure that they do not fall behind new developments and services; using multiple vendors spurs innovation.

- *Multiple vendors for different services.* The corporations that choose multiple vendors for different services tend to be those that prefer a "best-of-class" approach to selecting their service providers. The "best-of-class" philosophy is fairly well entrenched, and we expect it will continue to be prevalent in the foreseeable future.

As Exhibit 3-1 indicates, 60% of respondents use secondary carriers for 1+ dialing, 50% for 800/inbound, and over 40% for private line services.

This trend is indicative of the nature of the voice market because voice services, as both an application and a technology, are generally considered "simple." The commoditization of voice over the last decade—the familiarity, flexibility, robustness, and decades of experience in dealing with the public network—has created a "comfort zone," whereby network managers seek the most "cost-efficient" solution for the voice services. Managers also entrust these services to more than one supplier, because there is little loss of functionality, or reliability between different carriers, for voice services. For large corporations, having multiple vendors for "commodity" services is not uncommon. Exhibit 3-2 looks more closely at how much traffic that is routed to secondary carriers.

We expect this trend to continue. The high share of these commodity services in the overall service portfolio will ensure a certain level of multivendor presence in most organizations.

As discussed in Chapter 1, users will, over time, choose different solution sets from different integrated carriers. The growth of integrated carriers, in our opinion, will not result in large users moving to a single source model.

The integrated carriers will differentiate themselves based on value-added services, and compete on solutions and applications.

Exhibit 3-1
Do You Use Secondary Carriers for Specific Services?

Source: the Yankee Group, 1997

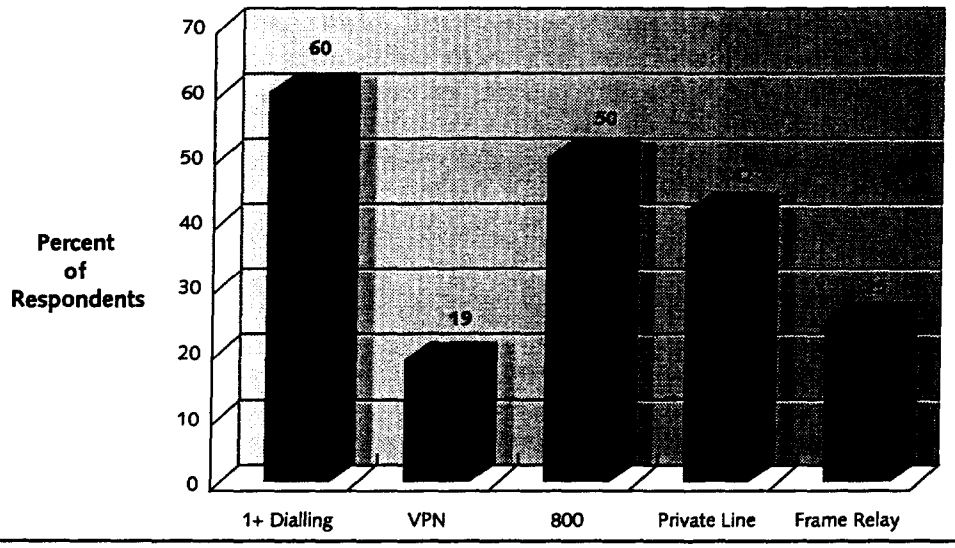
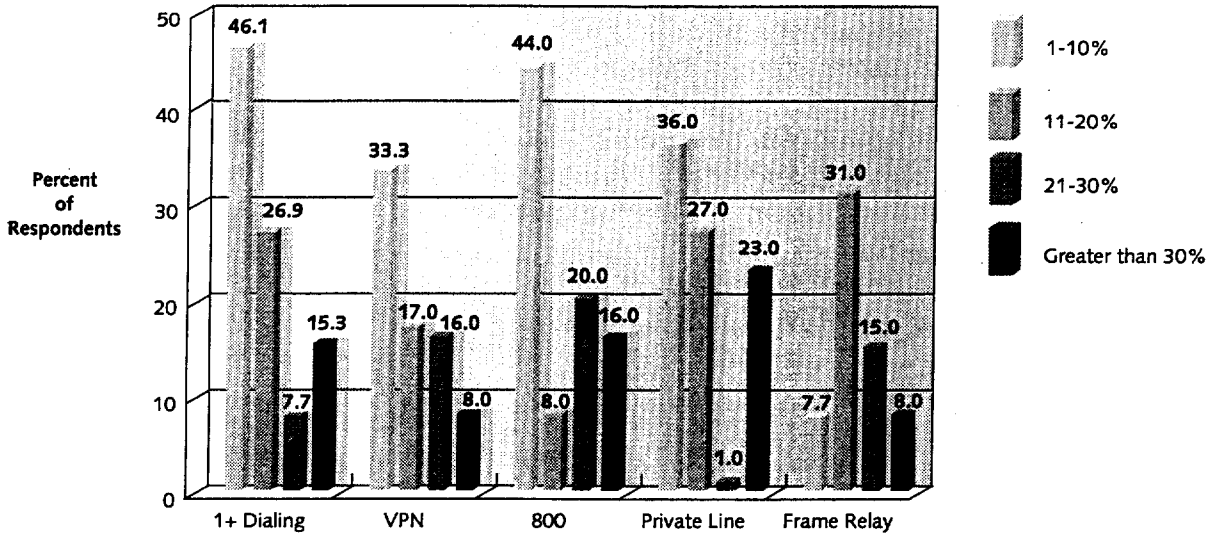


Exhibit 3-2
How Much Traffic Is Routed to Secondary Carriers?
Source: the Yankee Group, 1997



How then, does one explain the fact that 68% of respondents indicate they would consider moving to a single integrated carrier (see Exhibit 2-3). We feel that these respondents have local, long-distance, and even cellular integration in mind when they indicate that they would move to a single carrier.

We feel that consolidating local services into a single carrier would be a compelling proposition for most large businesses. This is because most large corporations have multiple locations within the United States. Invariably, they have to deal with at least seven LECs for their local services. In comparison, their long-distance suppliers tend to be one or, at the most, two.

In general, we feel that those users that have multiple vendors for traditional "commodity" services, especially local and long-distance, would be more willing to move to a single carrier if the bundling and price was right. In comparison, those that follow the "best-of-class" philosophy will continue to source service from different vendors.

3.2 The Best-of-Class Philosophy Is Well Entrenched

Of those respondents who indicated that they would not move to integrated carriers, a majority of them cited their belief that integrated carriers would not be able to provide best-of-class offerings across the entire spectrum of their service portfolio. Most of them, we believe, are justified in their assumption.

We believe that these large customers will seek out the best-of-class offerings across most services and applications. Therefore, a carrier that can put together the best solution for a specific application or service will be the supplier of choice for these users. This leaves the door open for "pure play" carriers that focus on offering specific services and build their differentiators around those services.

Let's now look at the supply side, the leading IXCs, their status as integrated carriers, and some of their offerings.

3.3 Becoming an Integrated Carrier

At the most fundamental level, becoming an integrated carrier requires two things:

- Carriers must have the right products, and
- They must adopt the correct business practices to develop, integrate, and deliver those products.

Regarding the right products, the RBOCs, IXCs, and CLECs have for the last few years been ensuring that they have an adequate suite of services. For instance, each group has been developing integrated local and long-distance portfolios. For the IXCs this means developing a suite of local service products, and for the RBOCs long-distance services.

Likewise, almost every carrier has bought or built an Internet access business or a wireless capability. This process will continue. Indeed, as we discussed in Chapter 1, an integrated carrier must have a minimum of services if it is to be considered an integrated carrier.

There are also other things they are trying to do:

- Each is retooling its networks and building the internal support structures such as customer care and billing needed to deliver integrated solutions.
- Each group is seeking partnerships with software and applications companies.
- Each is trying to cut costs and develop more efficient businesses.

These are the more obvious requirements for becoming a full-service provider. And for the most part, there is little difference between carriers in terms of what goes into their portfolios.

But becoming an integrated carrier—and realizing the full vision discussed in Chapter 1—requires substantially more. Indeed, carriers of all types are faced with

substantial business issues that could handicap their ability to develop into integrated carriers for the next several years.

For example:

- *There is tremendous uncertainty regarding prices and bundles.* Carriers can see where they want to be, and generally speaking, they have learned to talk the integrated carrier talk; but the explosion of product and service options and an overwhelming amount of market information make it very difficult deciding what are the best bundles. Carriers are particularly concerned about bundling solutions at the right price.

- *Carriers are accustomed to selling products and technologies. Selling solutions requires a different approach.* This means reorganizing sales and marketing teams to make them more customer-solution-focused and less product-oriented. They are particularly eager to develop better segmentation models. We believe that categorizing clients on the basis of annual telecom spending or number of lines will become obsolete in the future. The number of lines or the amount spent on long distance is completely irrelevant to determining a company's use of Internet access or remote access solutions.

- *Partnerships and innovation must be ensured.* This means finding partners, forming alliances, and, if need be, acquiring companies, in order to build the required "tool box" for developing integrated offerings. Partnerships become even more critical when carriers begin to bundle non-traditional telco products and services (such as new media access and delivery, systems integration, and software development) to create and deliver end-to-end solutions.

We believe that competitive advantages will be traded more on how well carriers address these business and operational issues than on how many product and services they have in their offering.

By and large, because the IXCs have been operating in a competitive environment for the last 15 years, and because they have more experience addressing the value-added needs of the *Fortune 1000*, we believe that they are further along in addressing these issues than the RBOCs.

The CLECs are different, if only because they are smaller and focused mostly on smaller and more modestly sized companies. Indeed, some such as TCG and ICI are among the most integrated firms in the business, but their smaller size and more focused market strategies make them better suited to the needs of medium-sized companies than to the needs of *Fortune 1000* managers.

In the next sections, we review AT&T, MCI, and Sprint, as well as MFS and Bell Atlantic, in regard to how they are addressing these critical success factors outlined earlier.

3.4 AT&T: Seeking to Deliver Customer Value by Leveraging the Network

AT&T has put together one of the most comprehensive product/ service "tool set" in the market today. However, in our opinion, the company is slightly behind the curve in offering truly integrated end-to-end solutions for the business segment.

AT&T only recently began to make the substantial investment in time and reorganization to develop the business and organizational aspects of becoming a full-solutions provider. In one example, AT&T recently announced a series of "value bundles" that target particular vertical industries, such as health care, and horizontal applications such as Web-based call centers that some of its competitors have already introduced in the market.

These value bundles reflect a change in the way AT&T segments the business market. Its segmentation model categorizes the large customers as solutions purchasers who value technology to solve business issues and create business opportunity. For these customers, AT&T has created value bundles that allow the customer to leverage the company's offers in order to find business solutions.

As a further illustration of AT&T's attempts to re-engineer the way it will sell and package its services, the company has outlined four elements in its strategy to deliver integrated solutions and value bundles over the near future:

- *Propel the customer by leveraging technology and the network.* AT&T hopes to leverage the size and the scope of its network, to deliver integrated solutions for its customers. Specifically, the company believes that if the performance guarantees and reliability of its conventional offers can be extended to new and emerging services, they can be a key differentiator for the carrier (for example, an extension of the "never miss a call" guarantee to a "never miss an order" guarantee for its e-commerce solutions).

- *AT&T Solutions.* Recognizing the need to have an entity that will assist in creation and support of integrated solutions, the company has made AT&T Solutions a pivotal player in its evolution as a integrated carrier. We believe that AT&T Solutions, which provides systems integration, outsourcing, consulting, and customer care elements of AT&T's integrated offers, will be critical to implementation of technology-based solutions.

The $1 billion in fees that AT&T Solutions has generated so far is an indicator of the value of such an entity for a carrier that is seeking to develop end-to-end solutions.

- *Sales and customer interface.* In our opinion, selling bundled offers that are less "products" and more "solutions" is the core challenge behind AT&T's intent of developing broader and deeper customer relationships. AT&T has initiated its new sales and customer interface by dedicating a client business manager at the customer's location. The manager is supported by technical specialists and consulting support for the client. It is still too early to predict whether this structure will prove to be effective in the selling of solutions.

Overall, AT&T has built a very powerful "tool set" of services (long distance, international, wireless, consulting, systems support, etc.), but it has had mixed success with the execution of some of the elements in its overall strategy to become a solutions provider.

One example is AT&T's Internet offering. As we mentioned earlier, AT&T has sought to extend the reliability and performance guarantees of its conventional voice and data services to new offerings. When it launched its Worldnet Internet service, due to the size and scope of its network, it was able to become the second largest Internet Service Provider (ISP) within seven months of introducing Internet access. However, its promises of reliability and performance could not be kept for many users who could not sign up for the service or did not receive the support they expected.

We expect more such missteps from all the carriers as they begin to define new solutions and offers for large customers, using new platforms and technologies, as well as a restructured sales force, and seeking the optimum mix of service bundling at the right price.

3.5 Sprint: Leveraging Its Local Expertise, Targeting Vertical Markets

It is hard to call Sprint anything but a full-service provider. While its local expertise and focus on vertical markets differentiates Sprint from its IXC competitors, the lack of an integrator such as an AT&T Solutions or SHL Systemhouse, leaves a gap in its "tool box" of services. Over the long term, this may affect Sprint's ability to provide end-to-end solution for large users. However, Sprint leads a number of IXCs in other areas.

- *Sprint has the benefit of knowing how to operate local telephone companies.* In a number of ways, local services business is more complex than long-

distance business. Although most of Sprint's local assets are residential and small-business-focused, we believe the familiarity of the local market coupled with the experience of local service provisioning will allow Sprint to bundle local services for the large users more quickly and effectively than either AT&T or MCI.

From an IXC perspective, MCI and AT&T are relative newcomers to the local services market, compared to Sprint. We see Sprint using this to its advantage. We also believe that for large users, a carrier's knowledge of the local market becomes a key differentiator only if the users have a significant regional/local presence and must integrate it into their overall communications infrastructure. We therefore expect Sprint to first focus on large businesses that have a significant local and regional presence.

- *Sprint has also started to target vertical markets with integrated offerings.* We believe this is an excellent differentiation strategy. Some verticals (such as heath care and insurance) are ideally suited to Sprint's expertise in local services, data services, and strong national presence.

Sprint's Navigen, an offering that provides an end-to-end solution for the health care vertical, integrates switched transport, host database systems, computing platforms, and graphical user interface (GUI) to connect applications on the Health Information Network.

We see Navigen as a compelling example of the kinds of solutions that integrated carriers can offer their users. By integrating disparate elements and providing system and service management, Navigen provides a comprehensive solution for communications and information sharing rather than just the underlying transport.

While Sprint builds its integrated offers, one tool that we see missing in its tool box is something akin to AT&T Solutions or SHL Systemhouse—an in-house entity that will support Sprint in developing and delivering integrated solutions.

Sprint has indicated that it will use a combination of internal resources and outside partners for any systems integration requirements and other non-traditional telecom expertise.

There is some merit to Sprint's argument that it should focus on core competency and not step beyond its areas of expertise. However, we believe that over the long term, the implementation of solutions will require assisting users in business process re-engineering and in the management of legacy systems on an ongoing basis. Having an in-house information systems and technology integrator and consultant would strengthen not only the implementation of solutions, but also contribute substantially to developing integrated offerings.

Furthermore, we believe that large-enterprise users, in particular, will seek a demonstrable track record. Whether Sprint uses partners or goes the MCI route of acquiring systems integration expertise, it will have to demonstrate to its users that its systems integrators can deliver.

3.6 MCI: Moving to Integrated Solutions on the Back of Master Service Agreements

MCI has been an integrated carrier for a while. This is reflected in networkMCI One, the first bundled service offering among any of the IXCs, primarily targeting the mid-market segment. However, for the large-business segment, MCI currently sees its master service agreements (MSAs) as the vehicle for providing integrated solutions.

We believe MSA may not be a compelling enough proposition to differentiate MCI as an integrated carrier. In fact, we see three of MCI's current and past initiatives as important stages of its evolution into an integrated carrier. These three are MCI's efforts in building a facilities-based local offering—MCI Metro, its systems integration ability, and its willingness to embrace the Internet as a platform to deliver integrated solutions.

MCI defines integrated offerings differently for each of the three (small, medium, and large) business segments. It defines integration for small and midsized businesses as providing a bundled offering of services, all on a single bill. Its service offerings for these segments therefore reflect those attributes. NetworkMCI One is an example of this. It bundles most of MCI's service portfolio (long distance, local, wireless, Internet access, conferencing, etc.) and can be customized to the needs of the user. The subscriber can be have a single bill with common discounting across the bundle. MCI has seen its biggest success in bundling with networkMCI One in the mid-market segment.

Let us now look more closely at MCI's integration strategy for the large-business segment, examine an integrated solution, and assess the new sales organization in meeting the needs of the large accounts.

3.6.1 Master Service Agreements: The Cornerstone of Integrated Offerings for Large Business

MCI's main marketing message to the large-business segment has been to offer master service agreements across its entire service portfolio. The integration message it has tried to communicate emphasizes that different services work better together if they are bought from MCI, thereby encouraging large users to source a majority of their services from MCI.

It has sought to further sweeten the deal by allowing users to aggregate their communications spending and thus accrue discounts across the total communications portfolio as opposed to individual products.

MCI sees its integrated offerings evolving through two phases. The first phase is the current approach of master service agreements, with limited integration. The second phase will see greater integration and more emphasis on solutions.

In our opinion, MSAs are a short-term fix to integrated solutions. This is because competitors can replicate it or offer better terms. Over the long term, MCI will have to move toward offering customized solutions that go beyond bundling and discounts. As MCI's competitors focus on verticals, and offer end-to-end solutions rather than mere bundling, large customers will look for more than just master service agreements to find solutions for their communications requirements.

We see that MCI has begun its evolution in that direction. The recent announcement of Vault is one example of the next generation of integrated offerings that can be expected from MCI.

MCI has also involved SHL Systemhouse in developing integrated offerings, especially its intranet initiatives, integrated call centers (including Web-enabled call center applications), sales force automation, and upgrades of networks using legacy systems.

This brings us to the critical question of sales and customer interface for the delivery of these solutions. MCI has been building a support structure to bring all the service offerings together for the customer. It is also providing a single point of contact, an account manager, and a sales overlay structure. The account manager draws on the expertise across services and divisions to provide a service portfolio to the client. The account manager, after interfacing with the client, provides the service specifications to the various product divisions within MCI to develop a bundled offer that best meets the customer's requirements.

While this is the current structure and is primarily focused on the bundling and arrangement of MSAs, going forward it will provide input for end-to-end solution for the users.

We believe that among the IXCs, MCI has the best model for selling bundled offerings to large clients. They are based on an interactive model both at the customer end and internally, and are in the process of being transformed into selling solutions. We do not expect the process to be smooth, but MCI has the right ingredients in place to address the challenge.

3.7 WorldCom: The Sum is Greater than Its Parts

With the acquisition of MFS and UUNet, few carriers can rival WorldCom for its sheer scale of vertical integration. UUNet contributes the United States' largest business-focused Internet services company, while MFS provides Worldcom with the broadest local market coverage in the United States and local market access to major foreign financial cities.

However, looking ahead, we see two gaps in WorldCom's portfolio of services: first, the lack of a robust nationwide wireless offer; and second, the lack of national account teams that would allow it to maintain the momentum of growth outside its traditional verticals.

WorldCom's synergy—the sum of LDDS, MFS, and UUNet—has worked well. Its current success in the verticals of financial, banking, and other global, data-intensive, large businesses is mainly due to the following:

- *Domestic local network.* MFS's facilities-based local network has a strong presence in 43 metro markets. It has also put in place extensive interconnection agreements. The network itself is almost completely high-capacity fiber, with the most route miles of any of the CLECs competing for the business market in U.S. metro areas.

- *Global presence.* WorldCom's facilities-based presence in major financial and commercial centers in Europe and the Pacific Rim provides it an advantage not easily replicated by its U.S.-based competitors, since very few of them have their own facilities in these cities.

- *Data services.* WorldCom's strong suit has been an extensive portfolio of data services, including comprehensive frame relay offerings, delivered over a national ATM backbone network. This offering was further strengthened by the acquisition of UUNet, with its Internet and related services (see the May 1996 *Yankee Watch Telecommunications,* "MFS Acquires UUNET: Positioning to Capture New Markets").

So far, this combination has fueled the growth in large as well as medium businesses. Now, as WorldCom gears for competition, it faces two important challenges:

- How to further increase share in other large verticals (and replicate the success it has had in finance, investment, and banking verticals); and

- How to profitably move down-market to garner a *greater* share of medium and small business.

Yankee Group research has consistently indicated that medium and (especially) small businesses want bundled offers making them on a single bill. As WorldCom begins to look outside of MFS's metro areas for growth, it will need to increase its bundled offers—making them more comprehensive than its current offerings—and, more importantly, start providing integrated solutions. WorldCom will especially need a more extensive local network with a strong suite of network services and a comprehensive wireless footprint. Although it has the services of the sixth-largest wireless reseller in the country, as well as other resale and interconnection agreements to expand its local services, it will not have the profitability and cost control that have been its strong point in cases where it is selling facilities-based services.

For large businesses, the challenges are different. Those large businesses such as manufacturing (with their extensive regional network of suppliers) or retail (with widespread outlet locations and warehouses) require their carriers to have the same strong regional and national presence. WorldCom, at its current level of regional deployment (especially outside metro areas), could fall short of the expectations of such large users. The company also does not have a national accounts organization that could actively seek business development from this segment.

Ultimately, the strategic challenge that Worldcom faces in implementing both of the above initiatives is balancing growth against profitability. If it grows by reselling, interconnection, and heavy capital expenditure to expand into new markets, it risks profitability and becoming a "me-too" carrier (another, smaller Sprint or MCI). If its stays with the existing markets and portfolio, over the long term, it faces slower growth in the face of new competition. We expect that all future initiatives from WorldCom will be in response to this challenge.

3.8 Bell Atlantic: Best Integrated of the RBOCs, but Gaps Remain in Service Offerings to Large Businesses

Looking at its product portfolio, there is no doubting Bell Atlantic's position as an integrated carrier. Additionally, the merger with NYNEX will further strengthen Bell Atlantic's capabilities in offering end-to-end solutions.

However, aside from the fact that it has yet to gain regulatory relief to enter the long-distance market (but there is no doubt that it will), Bell Atlantic will have to fill two substantial gaps in its service offerings if it is to effectively compete with the IXCs: a global voice and data service offering, and a national accounts sales team.

The gaps hinder Bell Atlantic's ability to become a major contender on a national scale for large businesses (of course, this issue is faced by all RBOCs, and is not unique to Bell Atlantic).

Despite its deficiencies, Bell Atlantic will be able to develop integrated solutions for a majority of its customers, including residential, small, and medium businesses. Its strengths include:

- *One of the largest local markets in the country.* The Bell Atlantic/NYNEX region covers 12 states, and combined they total 38.4 million access lines.
- *Concentration of business.* The Yankee Group estimates that there are over 15,000 large businesses in the combined Bell Atlantic/NYNEX region, home to more than 100 of the *Fortune 500* companies.
- *A strong wireless business.* Bell Atlantic/NYNEX, via Bell Atlantic NYNEX Mobile (BANM), controls 55 million wireless points of presence (POPs).
- *A growing Internet offering.* Bell Atlantic.Net's Internet offering (launched April 1996) is growing steadily. Initially targeting the residential customer, and currently expanding its scope to other segments, we estimate it has around 50,000 customers.
- *A systems integration company.* Bell Atlantic Network Integration (BANI) is an indication of Bell Atlantic's foresight in realizing the need for an entity that will supply systems integration support for the bundled solutions provided to medium and large businesses.

However, for large businesses, Bell Atlantic, much like the other RBOCs, has faced two choices in how to address this highly competitive market in the new deregulated world:

- Should it make significant investments in building a comprehensive product portfolio that will match the leading IXCs and make it a contender, on a national scale, in the large business segment? The net outcome, although uncertain, could be a significantly larger revenue share from this segment.
- Alternatively, should it offer more limited solution sets that leverage its existing assets and bundle some new service offerings, thereby limiting the investments required to develop a complete suite of services and a national account infrastructure? The net result would be an incremental revenue stream.

Not surprisingly, all the RBOCs have chosen the second alternative. The reasons are obvious. The incremental build approach doesn't require significant investments up front for uncertain outcomes in a highly competitive large business segment. That capital can be better deployed in other markets with more certain outcomes—for example, in-region long-distance service provisioning, or upgrades to the network for enhanced services.

Bell Atlantic has also chosen to address the large-business segment with the incremental approach. Currently, its primary focus is on exploiting the $8 billion in-region long-distance market, and making the necessary investments in upgrading its network for broadband and other services.

With the incremental build approach, we expect to see Bell Atlantic developing bundled solutions for large users in a manner that will first leverage its local assets and strong managed network services. Over time, as it builds up the necessary operational expertise in provisioning long-distance services, the company will expand the scope of its services and ultimately join one of the large global partnerships, to make a strong play in the large business segment.

3.9 Conclusion

Clearly, the three leading integrated carriers—IXCs and RBOCs—have seen the future, and implementing integration-driven service offerings and solutions is their primary focus. As they reorganize their sales and support services, and face the challenge of billing for new services, we see the following dominant trends in the evolution of integrated offerings.

- *All carriers will offer custom contract agreements, allowing bundled services to provide cost savings to customers.* Custom contract agreements, we believe, are the first option that will be exercised by all the carriers to make bundling more attractive to the users.

- *The carriers will have to offer solutions that will lower operating costs (for example, offsetting agent costs with call center solutions or lowering head count through outsourcing).* Integration for integration's sake will not work. Time and again, the survey results indicate that unless the users see tangible cost savings, they will not buy. The pressure on telecom managers and other decision-makers, to deliver more for less, brings a very bottom-line-driven approach to new services.

- *Every integrated offering will have to pass the gauntlet of performance guarantees and reliability.* Users have come to expect very high reliability in existing services. The leading carriers have satisfied that expectation. We expect the users to demand comparable reliability for new services as well. In our opinion, any solution will have to provide some performance guarantees and then meet them to have widespread success with their integrated offerings.

- *Carriers will have to learn to sell solutions and change internally to accommodate the new approaches.* The three leading IXCs have realized that the complexity of customer needs is outpacing the development curve of their

sales organizations. Most are attempting to accelerate the sales organization evolution through reorganization, retraining, and non-telco approaches to the sales process. We believe that because of the organizational inertia, it may be a while before sales structure reaches its desired efficiency.

- *We anticipate challenges in billing and customer care systems as new applications, bundling, and integrated offerings increase.* We anticipate major challenges for the carriers in provisioning billing systems that meet customer expectations, and that charge for new solutions that will be delivered over non-traditional hybrid transport. Additionally, customer care systems for solutions that cut across a number of functional areas in the customer's organization will require new and innovative approaches to providing support for these services.

- *New pricing paradigms will evolve.* Since a number of integrated offers will emerge further up the value chain, per-minute pricing and usage pricing, in general, will become increasingly difficult for carriers. Project pricing or custom consulting pricing will emerge in which carriers are paid to develop and manage solutions.

Overall, the movement toward integrated offerings is well under way. We expect to see a much greater effort than in the past by telecom carriers at the bundling and developing of service offerings that address communications, data requirements, and e-commerce needs much higher up the value chain. As the survey results highlighted in this Report indicate, users are convinced on the idea of integrated carriers. It is now up to the carriers to meet those expectations.

Appendix A
Further Reading

"Switched Access Reform: Switching the Burden," *Yankee Watch Telecommunications,* Vol. 12, No. 3, May 1997.

"IXCs in the Local Loop: Going the Distance?," *Yankee Watch Telecommunications,* Vol. 12, No. 1, February 1997.

"Bell Atlantic and NYNEX: Opportunities Gained and Lost," *Yankee Watch Telecommunications,* Vol. 11, No. 9, May 1996.

"MFS Acquires UUNet: Positioning to Capture New Markets," *Yankee Watch Telecommunications,* Vol. 11, No. 8, May 1996.

Appendix B
Glossary of Acronyms and Abbreviations

ACD	automatic call distributor
ATM	asynchronous transfer mode
BANI	Bell Atlantic Network Integration
BANM	Bell Atlantic NYNEX Mobile
CLEC	competitive local exchange carrier
CTI	computer-telephony integration
GUI	graphical user interface
ISP	Internet Service Provider
IXC	interexchange carrier
LAN	local-area network
LEC	local exchange carrier
MSA	master service agreement
POP	point of presence
POTS	Plain Old Telephone Service
PSTN	Public Switched Telephone Network
RBOC	Regional Bell Operating Company
VAN	value-added network
WAN	wide-area network
WWW	World Wide Web
YGC 100	Yankee Communications 100

Appendix C
Index

Yankee Group Research Services

AsiaScope Communications

Consumer Communications

Client/Server Computing

Data Communications

Enterprise Applications

EuroScope Communications

Internet Computing Strategies

Internet Market Strategies

Latin American Communications

Management Strategies

Network Solutions

Telecommunications

Wireless/Mobile Communications

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